

## PRINCIPAL SPECIFICATIONS

Model Number	LO Frequency $f_0$ , MHz	†Bandwidth RF Input
IQF-27L-***B	20 - 200	10% of $f_0$

For complete Model Number replace \*\*\* with desired LO Frequency in MHz.

## GENERAL SPECIFICATIONS

**RF and LO Input Characteristics**  
 Impedance: 50  $\Omega$  nom.  
 VSWR: 1.5:1 max.  
 RF Power Level: 0 dBm nom.  
 LO Power Level: +10 dBm nom.

**I & Q Output Characteristics**  
 Video Bandwidth: DC to †50 MHz nom.  
 Output Impedance: 50  $\Omega$  nom.

**Conversion Loss**  
 (RF to I or Q): 10 dB typ., 12 dB max.

**IF Balance (I to Q) @  $V_c = +5V$**   
 Phase:  $90^\circ \pm 2^\circ$   
 Amplitude:  $0 \pm 0.2$  dB

**Bias Controls, @  $f_0$ :**  
 Phase Tuning:  $\pm 5^\circ$  nom.  
 Amplitude Range:  $\pm 1$  dB nom.

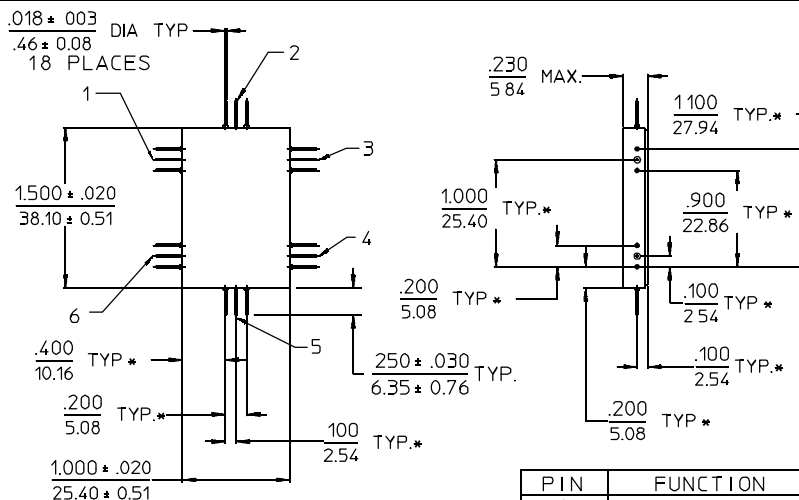
**Temperature Stability:**  $\pm 0.2$  dB,  $\pm 1^\circ$  max.  
**Operating Temp:**  $-55^\circ$  to  $+85^\circ C$   
**Weight, nominal:** 0.55 oz (15.4 g)

†RF and Video Bandwidths are typically much greater than specified.

### General Notes:

- I & Q networks are integrated devices that produce two quadrature-phased, equal amplitude signals when fed RF and LO signals.
- The IQF-27L series features in-circuit, voltage controlled phase and amplitude balance adjustments that allow fine adjustments when the device is in its normal operating environment. These features provides accuracy not previously attainable in a comparably small package. In addition, the voltage controlled phase and amplitude balance inputs facilitate closed loop, servo operation using the adjustment inputs in the feedback loops.
- Merrimac I & Q networks comply with the relevant sections of MIL-M-28837 and may be supplied screened for compliance with additional specifications for military and space applications requiring the highest reliability.

### L - Package Outline



#### NOTES:

- Tolerance on 3 place decimals  $\pm .010(.25)$  except as noted.
- Dimensions in inches over millimeters.
- Dimensions marked with \* apply only at body.
- All unmarked pins are case ground.

PIN	FUNCTION
1	Phase Adjust
2	LO Input
3	I Output
4	Amplitude Adjust
5	RF Input
6	Q Output

29Apr96